



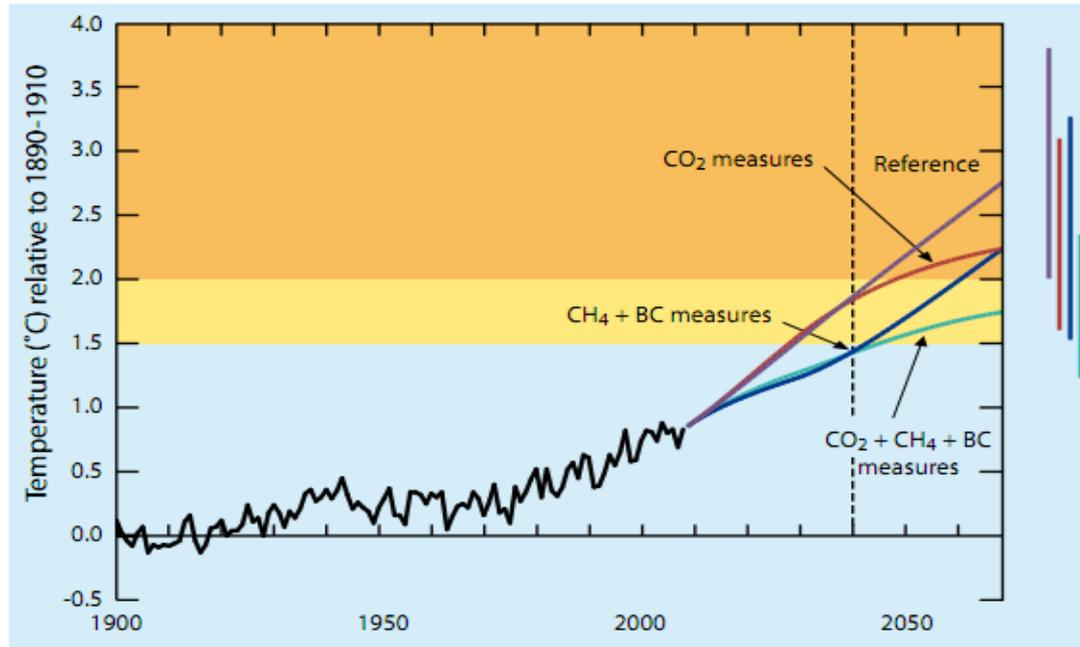
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Short Lived Climate Pollutants in Maryland



Graphic of cover of UNEP Report on SLCPs which shows illustrations of a ship, industrial pollution, livestock, and an oil rig

Early SLCP Reduction is key



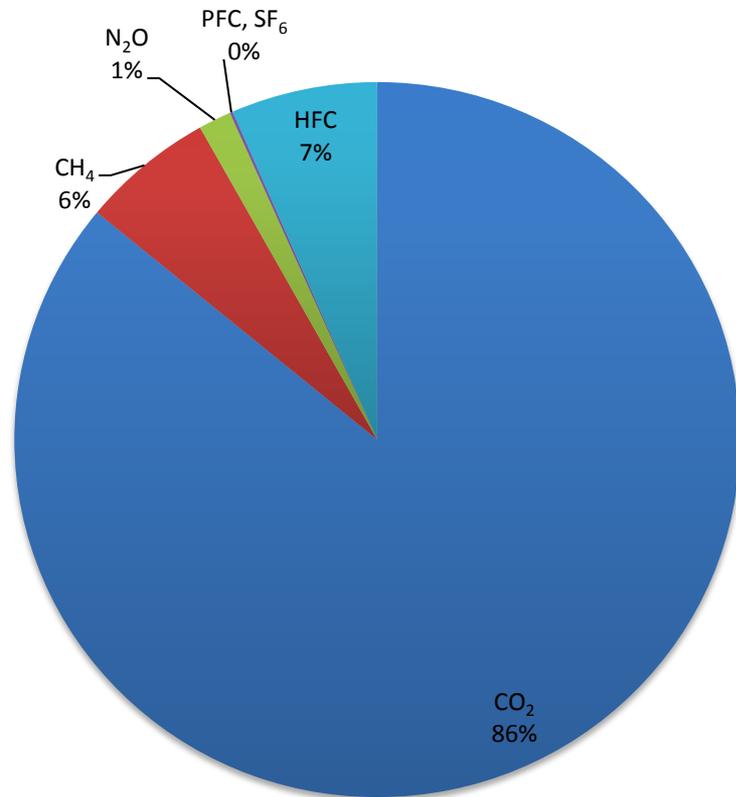
UNEP-BC/O3 Report - Shindell et al, 2012

- An immediate focus on black carbon and methane may give substantial climate benefits over the next 20-40 years
- SLCP policies can't replace CO₂ measures
- Need to focus on all GHGs

SLCPs in Maryland

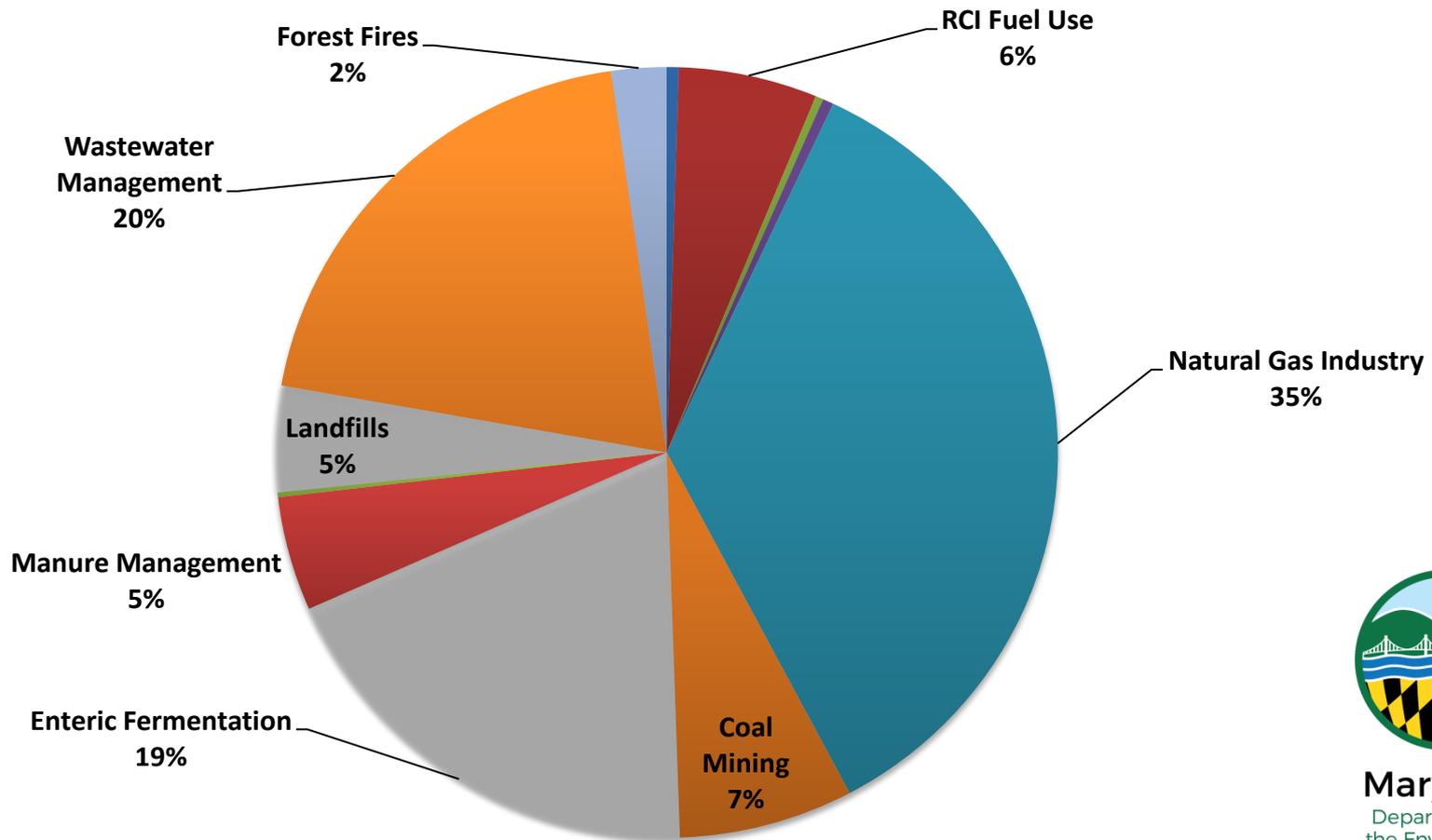
- Currently account for over 13% of GHG emissions in Maryland (20 year GWP)
- Emissions are expected to increase by 2020 under a BAU scenario

2011 GHG Emissions in Maryland



Sources of Methane in Maryland

2011 Methane Emission Sources



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Methane in Maryland

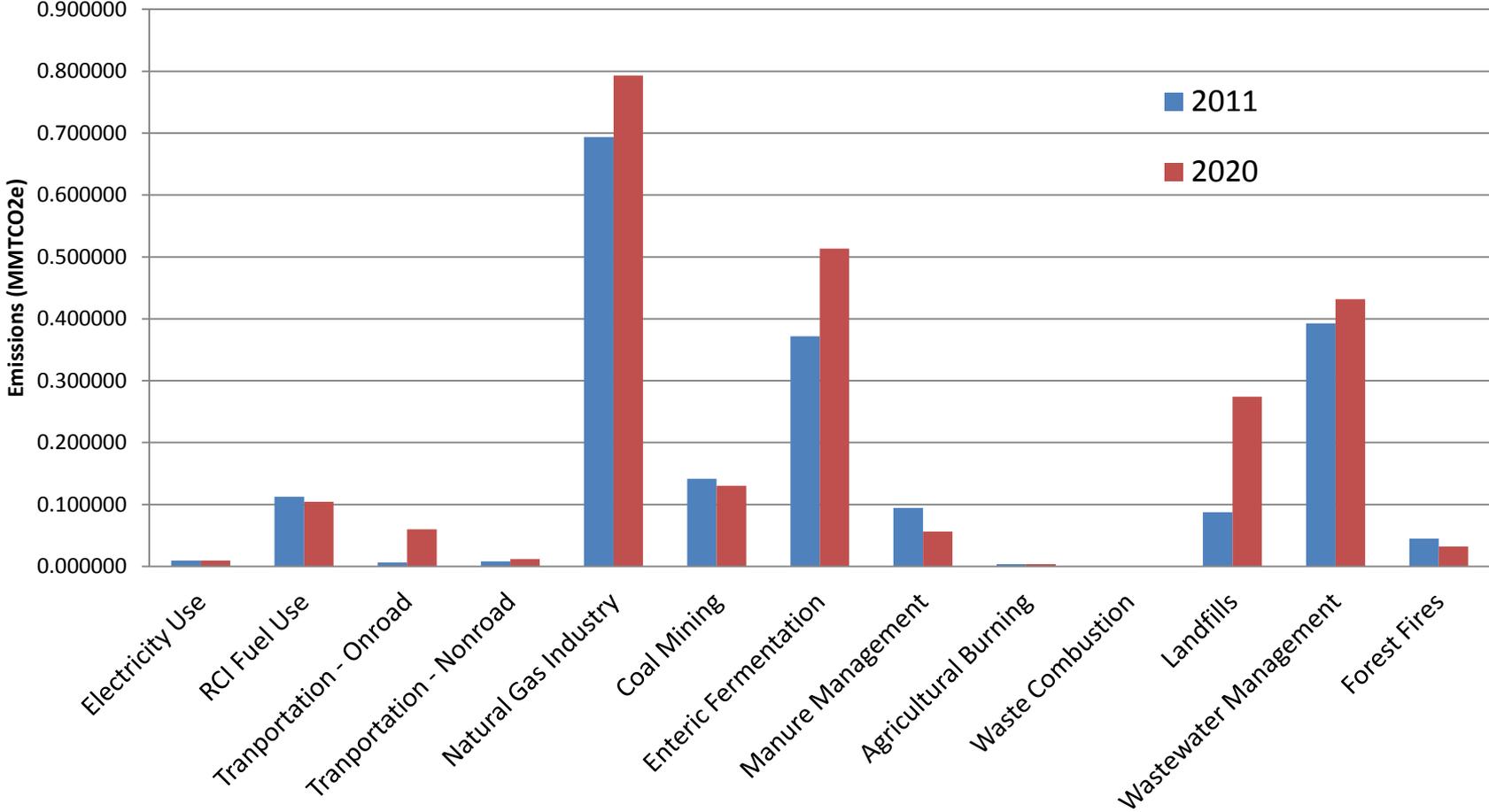
- Top 3 Sectors:
 - Natural Gas – 35%
 - Agriculture – 24%
 - Wastewater Management – 20%
- Landfills, RCI fuel use, and coal mining account for most of the remainder
- All sources show increases from 2011 to the 2020 projections except for RCI fuel use, manure management, and forest fires
- Landfill projections are projected to double by 2020
- The future of the natural gas industry in MD is still an unknown



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Methane in Maryland

Methane Emissions 2011 vs. 2020 BAU Projections



Black Carbon in Maryland

Maryland has several programs and regulations to reduce diesel particulate emissions, a major source of black carbon but does not have an inventory of actual emissions

- Maryland Diesel Vehicle Emissions Control Program
- Engine idling restrictions
- Diesel retrofits
- SmartWay upgrade kits (voluntary fleet fuel efficiency improvements)

EPA Rules:

- 2007 Heavy Duty Highway Diesel Rule
- Clean Air Non-Road Diesel Engine & Fuel Rule
- Highway and Non-Road Diesel Rules (updated in April 2006)
- Clean Diesel Program for Locomotives and Marine Engines



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HFCs in Maryland

- Only emitted in Maryland as a result of being ODS substitutes
- Account for 7% of Maryland's GHG emissions
- Projected to increase by about 70% of 2011 levels by 2020

